

**REMARKS**

Claims 1, 2 and 4-7 are pending in this application. By this Amendment, claim 7 is amended. No new matter is added. Reconsideration and withdrawal of the rejection is respectfully requested.

**I. The Claims Define Patentable Subject Matter**

The Office Action rejects claims 1, 2 and 4-7 under 35 U.S.C. §103(a) over U.S. Patent Publication No. 2004/0222412 to Bai et al. (Bai).<sup>\*</sup> This rejection is respectfully traversed.

Independent claims 1 and 7 recite, *inter alia*, "a  $\pi$ -conjugate structure whose carbon number is 3 to 15." Support for the amendment can be found in the specification at, for example, paragraph [0018].

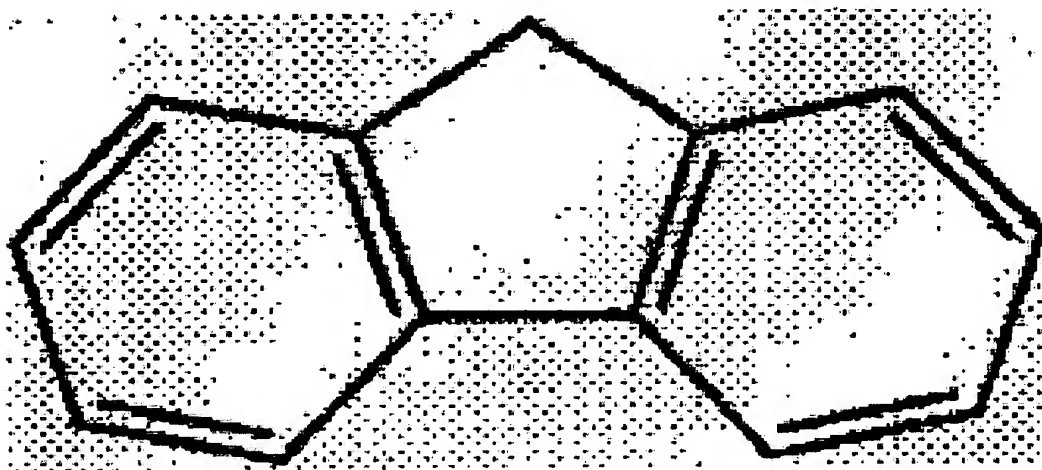
Bai discloses a modifying film 18 ("functional layer"). Bai fails to disclose the material of the electron acceptor contained in the functional layer recited in claim 1. The Office Action relies on Kelley for supplying the material missing in Bai.

However, the passage of Kelley relied on by the Office Action for allegedly disclosing the recited material only discloses "polyfluorene." Such a polyfluorene does not disclose or suggest the material recited in claim 1.

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<sup>\*</sup> It is believed that the Examiner also intended to include U.S. Patent Publication No. 2003/0102471 to Kelley et al. (Kelley).

In particular, a singular fluorene consists of 13 carbons (monomer). Please see below:



The passage of Kelley relied on by the Office Action for disclosing a  $\pi$ -conjugate structure discloses a "polyfluorene." A polyfluorene contains at least 2 singular fluorenes, and thus has at least 26 carbons (dimer). Thus, Kelley's polyfluorene does not disclose or suggest the material having a carbon number of 3-15 as recited in claim 1.

Furthermore, according to the specification of the present application, paragraph [0019] recites "if the carbon number of the  $\pi$ -conjugate structure exceeds 15, the energy difference between HOMO and LUMO tends to become extremely small and in such a case, a problem arises in that unwarranted carriers are generated." Thus, the presently claimed invention cannot be easily derived from the applied references. Bai fails to cure the deficiencies of Kelley. Accordingly, the applied references, alone or in combination, fail to teach or suggest the recited features of claims 1 and 7.

For at least these reasons, independent claims 1 and 7 and the claims dependent therefrom are patentable over the applied references. Withdrawal of the rejection of the claims is respectfully requested.

**II. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the pending claims are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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